



Alpha Magnetic Spectrometer
NASA / DOE

Alpha Magnetic Spectrometer Configuration Control Board (CCB) Minutes



National Aeronautics and
Space Administration

October 13, 2004
Building 1, Room 920L
2:00 – 4:00 pm

Attendees

CCB members and other attendees are listed in Attachment 1.

Agenda Item 1: Payload Integration Agreement (PIA) Overview – Bob Miley/OZ2

- ❑ The purpose of this presentation was to Request for Full/Final Implementation Approval
- ❑ Reviewed history of CR# 6999 – Revision A
 - Originally released 08/15/02 for formal CM evaluation period
 - Draft PIA worked with ISS and SSP at CDR splinter - 05/13/03
 - CR# 6999 re-released 07/29/03 for formal CM evaluation period
 - Payload Control Board – 10/22/03
 - Steve Porter/NASA-JSC asked if S-band system was really critical, if so, try to find different option
 - Steve Porter/NASA/JSC asked that list be developed of any failures that would take the AMS off the truss
 - ISS Program Manager – 11/21/03
 - AMS—02 Project Re-baselined – May 2004
 - CR# 6999 – Revision A for 2nd formal review to baseline PIA
 - Objective to baseline PIA (for signature 11/04) and work with MIP (for signature in 05/05) and ICD (for signature in 02/05)
 - Proceed to PCB
- ❑ SSP 57113 Deltas



Alpha Magnetic Spectrometer
NASA / DOE

Alpha Magnetic Spectrometer Configuration Control Board (CCB) Minutes



National Aeronautics and
Space Administration

October 13, 2004

- 52 clarification or editorial changes were incorporated following the PCB on 10/22/03 and payload rebaselining
- Requirements Deltas
 - AMS-02 does not require return via Shuttle at end of mission
 - AMS-02 power requirement increase to 2,400 watts continuous/survival and 3,000 watts for peak power/worst case cold condition
 - Added GFE provided hardware integration work is AMS-02 responsibility
 - Liquid Helium and Xenon gas will be provided by AMS-02
 - Added robotic operations limit in magnetic field = 10 gauss
 - Steve Porter/NASA-JSC asked OB what magnetic field is around RPCM
 - 2nd ACOP added – new hardware/Express rack locker requirement
- Reviewed list of TBRs that have been closed
- Reviewed list of Requested and mandatory evaluators
- Summary – PIA reflects current AMS-02 Project payload requirements, AMS-02-to-ISS Program requirements, AMS-02-to-Space Shuttle Program requirements, widely coordinated review effort conducted, all comments have been dispositioned, and there are no outstanding technical issues.
- Requested PCB Action – approve and release AMS-02 Payload Integration Agreement (SSP57113) baseline via ISS Directive #6999.
- Steve Porter/NASA-JSC
 - Try to get TBRs closed ASAP
 - All TBRs to be tracked in the Open Paper Management Tool (OPMT)
 - The following will be added to CCB Agendas:



Alpha Magnetic Spectrometer
NASA / DOE

Alpha Magnetic Spectrometer Configuration Control Board (CCB) Minutes



National Aeronautics and
Space Administration

October 13, 2004

- PIA Signature – 11/04
- MIP Signature – 03/05
- ICD Signature – 02/05
- New Action Item (04-113) – Donna Cox/LMSO: add all TBRs from any of the AMS Project Documentation to the OPMT; need concurrence on who is responsible for closing items and closure date.

Agenda Item 2: Action Item 04-018 – Dave Kaplan/NT

- ❑ Action Item 04-018: Provide a plan for assuring quality and reliability for the NASA provided Payload Integration Hardware (PIH) and a plan for providing insight into the quality and reliability of the AMS Experiment.
- ❑ David Kaplan mentioned that David Petri had approved his presentation and he was scheduling a meeting to get Yolanda Marshall's approval.
- ❑ Steve Porter/NASA-JSC questioned if slide 3 should read Mission Success instead of Mission Assurance.
- ❑ Safety for both the PIH and Experiment
 - Milestones include:
 - Flight Safety Review – Phase II in March 2005
 - Ground Safety Review – Phase II in April 2005
 - Flight Safety Review – Phase III in June 2006
 - Ground Safety Review – Phase III in September 2006
 - Preparation of all Safety Data Packages is the responsibility of Lockheed Martin Space Operations (LMSO)



Alpha Magnetic Spectrometer
NASA / DOE

Alpha Magnetic Spectrometer Configuration Control Board (CCB) Minutes



National Aeronautics and
Space Administration

October 13, 2004

- ❑ Quality and Mission Assurance for the PIH
 - Line-by-line review of the detailed PIH schedule has led to a JSC Internal Task Agreement (ITA) between the AMS-02 Project Office (EA) and the S&MA Flight Equipment Division (NT).
 - Steve Porter/NASA-JSC questioned if EPs mentioned on page 9 of the presentation were contractor only or if it included civil servants. David Kaplan/NT verified it was only contractors.
 - Steve Porter/NASA-JSC requested David Kaplan to verify NT civil servants funding for FY05 and any further FY; need FY05 now.
 - The key personnel for quality and mission assurance for the PIH were outlined – AMS-02 Project Manager (S. Porter/Ea, T. Martin/EA), AMS-02 S&MA Lead (D. Kaplan/NT), PIH Fabrication & Testing (L. Starnes/NT), OE & QA (W. Lilly/SAIC), PIH Mission Assurance (J. Stanford/NT), and PIH Reliability (T. Saucedo/SAIC).
 - Situational Awareness:
 - Monthly actual vs. planned – starts with the AMS Deputy Project Manager, if no significant deviation proceed with plan, if there is a significant deviation it needs to be brought to the attention of the AMS Project Manager
 - Quarterly Review actual vs. planned – needs to go the AMS Project Manager
 - Semi-annual Meeting – April and September 2005; AMS Project Manager meets with NT Division Chief and staff to assess performance of S&MA during prior six months.
 - Near Term Forward Work includes:
 - Identifying senior-level QA to be dedicated to the AMS-02 Project.
 - It was noted that we will also have a lower level QA assigned to assist the senior-level QA.
 - Clear understanding that this is the “AMS Guy” and introduce him to management (Steve Porter, Trent Martin, and Paul Nemeth) when they tour building 10 to verify requested work to building has been completed.



Alpha Magnetic Spectrometer
NASA / DOE

Alpha Magnetic Spectrometer Configuration Control Board (CCB) Minutes

October 13, 2004



National Aeronautics and
Space Administration

- Verifying QAs are trained to use Coordinate Measuring Machine (CMM) and are certified for geometric dimensioning and tolerancing (GD&T).
- Participate in fabrication and testing forum among Lockheed Martin (LMSO), Rothe Joint Venture (RJV), and SAIC to “pathfind” improved processes for AMS-02.
 - Findings need to be recorded; want physical proof
- Quality and Mission Assurance for the Experiment
 - NT and LMSO prepare an AMS generic QMS Plan
 - Minimum acceptable system
 - Closed-loop process to document anomalies and failures with qualification and flight hardware
 - NT and LMSO review collaborator’s integrated schedule
 - Identify key tests and activities, determine if a site visit is recommended; if not no action required; if it is, AMS-02 Project Manager needs to be advised
 - David Kaplan to change decision box to read something similar to “Do we need a site visit or is documentation required?”
 - LMSO identifies all organizations that fabricate or test AMS Hardware
 - See presentation for flow chart
 - The generic QMS outlines what needs to be reported by DR or similar system.
 - David Kaplan looking for help in regards to decision box – “Will planned Functional Tests verify all quality issues?”
 - Will need qualification as to what ALL Quality Issues are by start of FRR discussion
 - Will attempt to utilize already planned tests to verify.



Alpha Magnetic Spectrometer
NASA / DOE

Alpha Magnetic Spectrometer Configuration Control Board (CCB) Minutes



National Aeronautics and
Space Administration

October 13, 2004

- It was noted that nothing will be imposed on the collaboration; discussed process similar to what happened with the welding issues at HBE
- Steve Porter/NASA-JSC to give collaboration a heads up on presentation
 - Trent Martin/NASA-JSC will add presentation to safety meeting on Thursday at TIM
 - David Kaplan/NT to send copy of presentation to Steve Porter/NASA-JSC and Trent Martin/NASA-JSC.

Agenda Item 3: Discussion of Change Request - AMS-02/G-006: Modification to Primary Support Stand for Shipping in Mid-Configuration – Bill Hungerford/AMS and Ross Harold/LMSO

- Ship payload with lower USS attached
- Steve Porter/NASA-JSC and Trent Martin/NASA-JSC to have off-line discussion Who provides money, not in current contract; NASA cannot be held responsible for extra cost
 - Collaboration shown designs and constraints beginning in 1999 and they had no issues
 - New Action Item (04-114) – Trent Martin/NASA-JSC/EA: to write/design chart explaining history for Steve Porter/NASA-JSC
- No disposition at this time pending discussion with collaboration

Steve Porter adjourned meeting at 3:28 pm.

Minutes Approval: _____



Alpha Magnetic Spectrometer
NASA / DOE

Alpha Magnetic Spectrometer Configuration Control Board (CCB) Minutes

October 13, 2004



National Aeronautics and
Space Administration

Attachment 1

CCB Sign-in Sheet



Alpha Magnetic Spectrometer
NASA / DOE

Alpha Magnetic Spectrometer Configuration Control Board (CCB) Minutes

October 13, 2004



National Aeronautics and
Space Administration

Attachment 2

Open Action Items Matrix